1. A method for introducing a nucleic acid vector into a living cell, said method comprising contacting said cell with said vector and, either before, during, or after contacting said cell with said vector, contacting said cell with a liquid medium comprising a compound that, in said medium, is charged, non-cytotoxic, and capable of facilitating the uptake of the vector by the cell.

2. The method of claim 1, wherein said cell is in a mammal.

3. The method of claim 3, wherein said mammal is a human patient.

4. The method of claim 1, wherein said vector comprises a gene encoding a polypeptide, a hormone, a vaccine antigen, an antisense molecule, or a ribozyme.

5. The method of claim 4, wherein said polypeptide is selected from the group consisting of growth factors, enzymes, anti-angiogenic polypeptides, and polypeptides that promote cell death.

6. The method of claim 1, wherein said vector is a viral-based vector.

7. The method of claim 6, wherein said vector is selected from the group consisting of a Herpesviridae, Dengue, Adeno-associated virus, Adenovirus, papillomavirus, and retrovirus based vectors.

8. The method of claim 7, wherein said vector is selected from the group consisting of HSV-1, HSV-2, VZV, CMV, EBV, HHV-6, HHV-7, and HHV-8.

9. The method of claim 7, wherein said vector is a lentivirus-based vector.

10. The method of claim 9, wherein said vector is an HIV-based vector.

11. The method of claim 1, wherein said vector is a bacterial vector.

12. The method of claim 11, wherein said vector is a *Listeria monocytogenes*-based vector.

13. The method of claim 1, wherein said vector is attenuated.

14. The method of claim 1, wherein said charged molecule is selected from the group consisting of charged polysaccharides, polylysine, acyclodextrin, diethylaminoethane, and polyethylene glycol.

15. The method of claim 14, wherein said charged polysaccharide is a glycosaminoglycan.

16. The method of claim 14, wherein said charged polysaccharide is a glycosaminoglycan analog.

17. The method of claim 15, wherein said glycosaminoglycan is selected from the group consisting of dermatan sulfate, heparan sulfate, chondroitin sulfate, and keratin sulfate.

18. The method of claim 16, wherein said glycosaminoglycan analog is dextran sulfate.

19. The method of claim 1, wherein said charged molecule is administered to said cell prior to the administration of said vector to said cell.

20. The method of claim 1, wherein said charged molecule is administered to said cell concurrent with the administration of said vector to said cell.

21. The method of claim 1, wherein said cell is a mature muscle cell.

22. The method of claim 3, wherein said cell is a cancer cell.

23. The method of claim 20, wherein said patient has cancer.

24. The method of claim 21, wherein said muscle cell is in a patient with a primary myopathy.

25. The method of claim 3, wherein said patient has a condition that can be treated by production of a therapeutic product for secretion into said subject's circulation.

26. The method of claim 3, wherein said vector and charged molecule are delivered locally.

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27. The method of claim 3, wherein said vector and charged molecule are delivery systemically.